

Connecting High School to College and Career

Career and Technical Education (CTE) provides critical learning and hands-on skills through Pathways within eight areas of study. Students who focus on a Pathway acquire the skills necessary for entry into well-paid careers with high potential for rapid financial growth, increased levels of responsibility, and a high degree of personal satisfaction.

CTE Pathways:

- Will jump-start your future career.
- Will give you unlimited opportunities.
- Will help you plan for life after high school—before graduation.
- Will save you time and money.

What is a Pathway?

- A Pathway is a sequence of courses within your area of interest.
- A Pathway connects from high school to college for a specific degree and/or career. A Pathway will save you time and money toward a college degree.

CTE: Keeping it REAL

- Classroom instruction connects to the REAL world of work and future career opportunities.
- Statistics indicate that CTE graduates are worth higher wages because they are more productive than other workers.

Did you know?

Ninety percent of jobs require training beyond high school.

Top 5 reasons to participate in CTE Career Pathways:

1. To acquire technical skills training.
2. To participate in hands-on learning.
3. To jump-start your future career.
4. To earn college credit while in high school through concurrent enrollment classes.
5. To save time and money!

Ask yourself:

- What do I want to be doing in 5 years?
- What do I want to be doing in 10 years?

Ask yourself:

- What classes should I take to get ready for college?
- What does it cost to go to college?

Ask yourself:

- Why should I plan?
- Why should I study?
- Why should I graduate from high school?

Ask yourself:

- How can I make a lot of money?
- How do I find a career?
- How can Pathways help me?

Acquiring critical learning and hands-on skills through education and training will open doors of opportunity for obtaining employment within your area of interest. Stay in school and finish your education. Your future depends on it.

For more information log onto
www.utahcte.org.

Utah State Office of Education
250 East 500 South P.O. Box 144200
Salt Lake City, UT 84114-4200
Patti Harrington, Ed.D., State Superintendent of Public Instruction
Mary Shumway, State Director of Career and Technical Education



Health Science and Technology
Education
Biotechnology

High School to College and Career PATHWAYS



CAREER AND TECHNICAL EDUCATION
Giving Students the Edge



High School to College and Career Pathway: Secondary

Area of Study: Health Science & Technology Education



Pathway: Biotech Research & Development Biotechnology

Middle School		State Requirements			High School Suggested Education Plan				College & Careers																							
7 th Grade	8 th Grade	Middle School		High School	9 th Grade Suggested	10 th Grade Suggested	11 th Grade Suggested	12 th Grade Suggested	Beyond High School																							
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	3.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <p>> Certificate</p> <p>> Associate degree</p> <p>> Bachelor's degree</p> <p>> Professional degree</p> <p>> On-the-job training</p> <p>> Apprenticeship</p> <p>> Military training</p>																							
Pre-Algebra 1.00	Elem. Algebra or Applied Math 1.00	2.00	Math	2.00	Geometry 1.00	Intermediate Algebra 1.00	Pre-calculus 1.00	Calculus or Statistics 1.00																								
Science .50	Science 1.00	1.50	Science	2.00	Biology or Human Biology 1.00	Chemistry 1.00	(1 additional credit—class of 2011)																									
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	2.50	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50																								
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50																										
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50																											
			Financial Literacy	.50			Financial Literacy .50																									
Keyboarding .50			Computer Tech.	.50	Computer Technology .50																											
CTE Intro 1.00		1.00	Career and Technical Education	1.00	<div><div>Career and Technical Education Recommended Pathway Courses</div><div>(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)</div><div>CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL</div><table><thead><tr><th>Course #</th><th>Foundation Courses: (required)</th><th>Credit</th></tr></thead><tbody><tr><td>51.1201</td><td>Biotechnology</td><td>1.00</td></tr><tr><td></td><td>Elective Courses:</td><td></td></tr><tr><td>51.0001</td><td>Health Science, Introduction *</td><td>.50</td></tr><tr><td>51.1399</td><td>Medical Anatomy & Physiology</td><td>1.00</td></tr><tr><td>51.0799</td><td>Medical Terminology</td><td>.50</td></tr><tr><td>51.1199</td><td>Health Science, Advanced (capstone course)</td><td>1.00</td></tr><tr><td>32.0199</td><td>Student Internship (Critical Workplace Skills)</td><td>.50</td></tr></tbody></table><p>* It is preferred that this course be taken prior to any foundation course.</p><p>3.00 credits for completion</p></div>					Course #	Foundation Courses: (required)	Credit	51.1201	Biotechnology	1.00		Elective Courses:		51.0001	Health Science, Introduction *	.50	51.1399	Medical Anatomy & Physiology	1.00	51.0799	Medical Terminology	.50	51.1199	Health Science, Advanced (capstone course)	1.00	32.0199	Student Internship (Critical Workplace Skills)
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<p>Workforce Trends</p> <p>While biotechnology is still in its infancy, it is a dynamic career field that is expanding by leaps and bounds. "Biotechnology has become the centerpiece of therapy of all ailments, from heart disease and cancers to the common cold," says Carl B. Feldbaum, president of the Biotechnology Industry Organization (BIO).</p> <p>Get the Facts</p> <p>Biotechnology is predicted to be one of the most important applied sciences of the 21st century.</p>		<p>Core Curriculum and elective requirements may vary district to district. Check with your school counselor.</p> <p>Concurrent enrollment course offerings vary by school and district.</p>		<p>Many Utah post-secondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional post-secondary Pathways for details.</p>																												
<p>Sample Occupations</p> <p>> Biochemist</p> <p>> Biotechnology Technician</p> <p>> Health Science and Technology Education Teacher</p> <p>> Immunohematologist</p> <p>> Laboratory Asst.</p> <p>> Microbiologist</p> <p>> Toxicologist</p>																																
<p>For more information on salary projections, labor market demand, and training options, visit www.careers.utah.gov.</p>																																

Note: For more information, talk to your school counselor.